Claims

1. A kit of stents for adjustable interventional reduction of blood flow in a blood vessel, the kit comprising:

a first reduction stent having in an expanded conformation at least one widened section and a narrowed section, the narrowed section defining a central lumen providing fluid communication between an upstream end and a downstream end of the first reduction stent;

at least one expandable dilatation stent having a tubular form with a second central lumen and being insertable into and expandable within the central lumen of the first reduction stent to increase fluid communication;

at least one second reduction stent having a narrowed tubular section with a third central lumen being insertable into the central lumen of the first reduction stent or the central lumen of the dilatation stent to decrease fluid communication, and having anchoring means at an upstream end, the anchoring means having a larger maximal diameter than the narrowed section,

wherein the dilation stent is insertable into the central lumen of the first reduction stent and provides fluid communication between the upstream and downstream ends of the first reduction stent and the second reduction stent is insertable into the central lumen of the first reduction stent and provides fluid communication between the upstream and downstream ends of the first reduction stent.

2. The kit according to claim 1, wherein the kit comprises several first and/or second reduction stents each having in an expanded conformation a different inner diameter.

3. A kit of stents for adjustable interventional reduction of blood flow in a blood vessel, the kit comprising:

a first reduction stent having in an expanded conformation at least one widened section and a narrowed section, the narrowed section defining a central lumen providing fluid communication between an upstream end and a downstream end of the first reduction stent;

an expandable dilatation stent having a tubular form with a second central lumen and being insertable into and expandable within the central lumen of the first reduction stent to enlarge the fluid communication;

a second reduction stent having a narrowed tubular section with a third central lumen being insertable into the central lumen of the first reduction stent or the central lumen of the dilatation stent to reduce the fluid communication, and having anchoring means at an upstream end, the anchoring means having a larger maximal diameter than the narrowed section,

wherein the anchoring means is in the form of an outwardly directed flange or shoulder at a downstream end of the narrowed section of the second reduction stent or the anchoring means define an intermediate section between

a widened section at the upstream end of the second reduction stent and the narrowed section of the second reduction stent.

4. The kit according to claim 1, wherein the first reduction stent has an hourglass, barbell or bottleneck shape.

5. The kit according to claim 1, wherein the second reduction stent has a bottleneck shape.

6. The kit according to claim 1, wherein the one first and/or the at least one second reduction stent and/or the dilatation stent are made of a flexible mesh of metal or plastic.

7. The kit according to claim 6, wherein the metal is a self-expandable metal alloy, preferably a nickel-titanium alloy.

8. The kit according to claim 1, wherein at least an intermediate section between the narrowed section and the widened section of the first and/or second reduction stent are covered with a biocompatible, plastic material.

9. The kit according to claim 1, wherein the first reduction stent is a multi-lumen stent having a main body with a proximal end and a distal end, the main body comprising an inner tube-like segment defining the narrowed section with the central lumen and an outer tube-like segment forming the widened section defining an outer lumen of the multi-lumen stent between an inner surface of the outer tube-like segment and an outer surface of the inner tube-like segment; the central lumen being adjustable in diameter and providing fluid communication between the proximal end and the distal end of the multi-lumen stent; the outer lumen being closed at a distal end by an annular cap-like segment defining the intermediate segment connecting the inner tube-like segment with the outer tube-like segment, and being open at a proximal end.

10. An adjustable multi-lumen stent for interventional reduction of blood flow in a blood vessel, the multi-lumen stent having a main body with a proximal end and a distal end, the main body comprising an inner tube-like segment defining a central lumen of the multi-lumen stent and an outer tube-like segment defining an outer lumen of the multi-lumen stent between an inner surface of the outer tube-like segment and an outer surface of the inner tube-like segment;

the central lumen being adjustable in diameter and providing fluid communication between the proximal end and the distal end of the multi-lumen stent;

the outer lumen being closed at a distal end by an annular cap-like segment connecting the inner tube-like segment with the outer tube-like segment, and being open at a proximal end allowing the introduction of a dilator

from the open proximal end of the outer lumen to the closed distal end of the outer lumen.

11. The multi-lumen stent according to claim 10, wherein the inner tube-like segment is arranged concentrically inside the outer tube-like segment.

12. The multi-lumen stent according to claim 10, wherein the main body or at least one of the segments of the main body is made of a material with superelastic properties.

13. The multi-lumen stent according to claim 10, wherein the main body or at least one of the segments of the main body is/are made of a flexible tube-like mesh of metal or plastic covered with an expandable polymer sheet, to provide impermeable segment walls.

14. An adjustable multi-lumen stent for interventional reduction of blood flow in a blood vessel, the multi-lumen stent having a main body with a proximal end and a distal end, the main body comprising an inner tube-like segment defining a central lumen of the multi-lumen stent and an outer tube-like segment defining an outer lumen of the multi-lumen stent between an inner surface of the outer tube-like segment and an outer surface of the inner tube-like segment

the central lumen being adjustable in diameter and providing fluid communication between the proximal end and the distal end of the multi-lumen stent,

the outer lumen being closed at a distal end by an annular cap-like segment connecting the inner tube-like segment with the outer tube-like segment, and being open at a proximal end allowing the introduction of a dilator,

wherein the annular cap-like segment of the main body is provided with at least two orifices.

15. The multi-lumen stent according to claim 14, wherein the at least two orifices are arranged in a regular pattern around the central axis of the main body.

16. The multi-lumen stent according to claim 10, wherein the main body comprises one covered tubular meshed stent folded back over itself at the distal end thereby forming the inner tube-like segment, the outer tube-like segment and the cap-like segment.

17. The multi-lumen stent according to claim 10, wherein the main body comprises two tubular meshed stents arranged within each other and covered with an expandable plastic cover, the cover forming the cap-like segment.

18. The multi-lumen stent according to claim 10, wherein the multi-lumen stent further comprises at least two outer tubular stents arranged in the outer lumen

of the main body in a regular pattern around the central axis of the main body.

19. The multi-lumen stent according to claim 10, wherein the multi-lumen stent further comprises an inner tubular stent arranged in the central lumen of the main body.

20. The multi-lumen stent according to claim 12, wherein the main body or at least one of the segments of the main body is made of a metal alloy with superelastic properties, preferably nitinol.